CLAIMS

1. An adaptive array apparatus that includes a plurality of radio units that each have a transmitting unit, a receiving unit, and an antenna,

the adaptive array apparatus comprising:

storing means for storing a separate compensation value for each radio unit, each compensation value reflecting phase propagation characteristics of the receiving unit and the transmitting unit in the corresponding radio unit; and

compensating means for compensating, for each radio unit, a phase amount used when generating a directivity pattern for an output signal by adding the compensation value corresponding to the radio unit to the phase amount.

2. The adaptive array apparatus of Claim 1, further comprising:

generating means for generating the compensation value for each radio unit in accordance with the phase propagation characteristics of the receiving unit and the transmitting unit in the radio unit,

the storing means storing the compensation values generated by the generating means.

3. The adaptive array apparatus of Claim 2,

wherein the generating means includes:

a generating unit for generating test signals;

a first detecting unit for detecting, when a test signal passes the transmitting unit in a radio unit, a first phase shift value for the radio unit;

a second detecting unit for detecting, when the test signal passes the transmitting unit and the receiving unit in order in the radio unit, a second phase shift value for the radio unit; and

a calculating unit for calculating a phase shift difference between the receiving unit and the transmitting unit in a radio unit using the first phase shift value and the second phase shift value of the radio unit, and for setting the calculated phase shift difference as the compensation value for the radio unit.

4. The adaptive array apparatus of Claim 3,

wherein the calculating unit calculates the compensation values by performing a subtraction using the second phase shift value and a value that is double the first phase shift value.

5. The adaptive array apparatus of Claim 4,

wherein the generating means generates the compensation values at a predetermined interval.

6. The adaptive array apparatus of Fig. 5,

wherein the predetermined interval used by the generating means is a period that is determined according to

(1) a degree to which a difference in phase shift amounts between the transmitting unit and the receiving unit of a radio unit changes over time, and

(2) a permitted range for the difference in phase shift amounts.

7. The adaptive array apparatus of Claim 2,

wherein the generating means generates the compensation values at a predetermined interval.

8. The adaptive array apparatus of Fig. 7,

wherein the predetermined interval used by the generating means is a period that is determined according to

(1) a degree to which a difference in phase shift amounts between the transmitting unit and the receiving unit of a radio unit changes over time, and

(2) a permitted range for the difference in phase shift amounts.

9. A compensation method for use in an adaptive array

apparatus that includes a plurality of radio units that each have a transmitting unit, a receiving unit, and an antenna, the compensation method compensating a phase amount that is used when generating a directivity pattern,

the compensation method comprising:

a generating step for generating a separate compensation value for each radio unit, each compensation value reflecting phase propagation characteristics of the receiving unit and the transmitting unit in the corresponding radio unit; and

a compensating step for compensating, for each radio unit, a phase amount used when generating a directivity pattern used for an output signal by adding the compensation value generated for the radio unit in the generating step to the phase amount.

10. The compensation method of Claim 9,

wherein the generating step includes:

an outputting step for outputting test signals;

a first detecting step for detecting, when a test signal passes the transmitting unit in a radio unit, a first phase shift value for the radio unit;

a second detecting step for detecting, when the test signal passes the transmitting unit and the receiving unit in order in the radio unit, a second phase

shift value for the radio unit; and

a calculating step for calculating a phase shift difference between the receiving unit and the transmitting unit in a radio unit using the first phase shift value and the second phase shift value of the radio unit, and for setting the calculated phase shift difference as the compensation value for the radio unit.

11. The compensation method of Claim 10,

wherein the calculating step calculates the compensation values by performing a subtraction using the second phase shift value and a value that is double the first phase shift value.

12. The compensation method of Claim 11,

wherein the generating step generates the compensation values at a predetermined interval.